

**TRANSLATION**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>188/03001WO</b>	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/DE2004/002469</b>	International filing date ( <i>day/month/year</i> ) <b>07.11.2004</b>	Priority date ( <i>day/month/year</i> ) <b>07.11.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>H04N13/04</b>		
Applicant <b>HOPP, Armin</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> ( <i>sent to the applicant and to the International Bureau</i> ) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> ( <i>sent to the International Bureau only</i> ) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-8 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 1-10 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement		
	Novelty (N)	Claims <u>1-10</u>	YES
		Claims _____	NO
	Inventive step (IS)	Claims <u>1-10</u>	YES
		Claims _____	NO
	Industrial applicability (IA)	Claims <u>1-10</u>	YES
		Claims _____	NO
2.	Citations and explanations (Rule 70.7)		
1	Reference is made to the following documents:		
	D1: WO 02/076107 A (VREX, INC; DIVELBISS, ADAM; SWIFT, DAVID, C) 26 September 2002 (2002-09-26)		
	D2: US 2002/021261 A1 (WERNER WILLIAM B) 21 February 2002 (2002-02-21)		
	D3: US 6 049 317 A (THOMPSON ET AL) 11 April 2000 (2000-04-11)		
	D4: US 5 497 197 A (GOVE ET AL) 5 March 1996 (1996-03-05)		
2	Document D1 is considered the closest prior art and discloses (the references between parentheses refer to that document):		
	DLP projector (figure 13, page 19, line 6 - page 22, line 4) for the active projection of stereoscopic images (abstract), with a DMD (figure 13), a driver circuit that interacts with a memory (DMD Data Formatter, figures 13 and 15) for driving a DMD (DMD Display, figure 13) and a signal input for inputting the image data from a		

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	<p>first and a second image channel (figure 15).</p> <p>The subject matter of independent claim 1 differs therefrom in that:</p> <p style="padding-left: 40px;">a second driver circuit that interacts with a memory and a switching device are defined, the first driver circuit processing image data from the first image channel and the second driver circuit processing image data from the second image channel and the switching device alternately supplying the DMD with images from the first driver circuit and from the second driver circuit.</p> <p><b>The subject matter of claim 1 is thus novel (PCT Article 33(2)).</b></p> <p>2.1 The current invention can therefore be considered to address the following problem:</p> <p style="padding-left: 40px;">simplifying addressing of the individual memory banks in order to increase the driving speed.</p> <p>That problem is solved in the current invention by the use of the above-mentioned second driver circuit and switching device, so that the image data from the individual image channels is processed not sequentially but in parallel and so that the DMD is only then triggered sequentially.</p> <p>2.2 The solution to that problem as proposed in claim 1 of the present application involves an</p>

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	<p><b>inventive step</b> (PCT Article 33(3)) for the following reasons:</p> <p>Although:</p> <ul style="list-style-type: none"><li>- D3 discloses a plurality of driver circuits (as processors + memories in figure 16) for a plurality of layers of a 3D volumetric display (figure 11), and</li><li>- D4 discloses three driver circuits (figure 1) for red, blue and green,</li></ul> <p>the problem of interest is not addressed. There is therefore nothing to suggest linking the documents.</p> <p>2.3 Claims 2-10 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.</p> <p>3 Document D2 can also be considered the closest prior art and discloses a 3D display with a single driver circuit that interacts with a plurality of memories (figures 6 and 15). Since D2 does not have a second driver circuit, however, the same conclusion is reached.</p> <p>4 Document D3 discloses a 3D volumetric display with a plurality of driver circuits for a plurality of layers (figures 11 and 16). It is not used for active projection with sequential left and right images and there is no indication thereof.</p> <p>The current application therefore appears to be</p>

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	<p>novel and inventive in relation thereto.</p> <p>5 Document D4 discloses a digital television system with three displays and driver circuits for each of red, blue and green (figure 1, column 3, lines 45-54). It is not used for active stereoscopic projection with sequential left and right images (column 3, lines 18-27) and there is nothing to suggest the triggering of a single display with two driver circuits.</p> <p>The current application therefore appears novel and inventive in relation thereto.</p>